

WHAT IS CLAIMED IS:

1. A fixing device for an image forming apparatus comprising:

a heat roller to be heated by eddy current;

5 an induction heating element for generating the eddy current on said heat roller, said induction heating element being disposed along said heat roller to face at least a part of said heat roller;

10 a plurality of coil cores provided outside said induction heating element for covering a part of said induction heating element, said plurality of coil cores being arranged at an interval in a longitudinal direction of said induction heating element, said plurality of coil cores being arranged such that a longitudinal direction of one of said plurality of coil cores 15 forms a predetermined angle with said longitudinal direction of said induction heating element.

2. The fixing device as claimed in claim 1, wherein said predetermined angle is an acute angle.

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3. The fixing device as claimed in claim 2, wherein said plurality of coil cores are arranged at two different intervals in said longitudinal direction of said induction heating element.

4. The fixing device as claimed in claim 1, wherein
said predetermined angle and said interval are arranged such
that heat distribution of said heat roller is approximately
5 uniform in a longitudinal direction of said heat roller.

5. The fixing device as claimed in claim 1, wherein
said plurality of coil cores are arranged such that a total cross
section of said plurality of coil cores at a desired imaginary
10 plane, which is orthogonal to said longitudinal direction of
said induction heating element, is approximately uniform.

6. The fixing device as claimed in claim 3, wherein
said plurality of coil cores are arranged such that said
15 intervals become smaller as each of said coil cores is placed
farther from a center of said induction heating element in said
longitudinal direction of said induction heating element.

7. The fixing device as claimed in claim 2, wherein
20 an interval at an end portion of the heat induction heating
element is smaller than that of a center portion.

8. The fixing device as claimed in claim 2, wherein
an angle defined by a coil core at end portion of the induction

heating element with the longitudinal direction of the induction heating element is smaller than that of a center portion.

5 9. The fixing device as claimed in claim 1, further comprising a central core provided along with a longitudinal direction of said induction heating element.

10 10. The fixing device as claimed in claim 1, wherein said coil cores are C-shaped coil cores.

11. The fixing device as claimed in claim 1, wherein length of the induction heating element is larger than length of the heat roller and the heat roller is located within the 15 length of the induction heating element.

12. 12. An image forming apparatus comprising:
a fixing device for an image forming apparatus comprising:

20 a heat roller to be heated by eddy current;
an induction heating element for generating the eddy current on said heat roller, said induction heating element being disposed along said heat roller to face at least a part of said heat roller;

a plurality of coil cores provided outside said induction heating element for covering a part of said induction heating element, said plurality of coil cores being arranged at an interval in a longitudinal direction of said induction heating element, said plurality of coil cores being arranged such that a longitudinal direction of one of said plurality of coil cores forms a predetermined angle with said longitudinal direction of said induction heating element.

10 13. The image forming apparatus as claimed in claim 11, wherein said predetermined angle is an acute angle.

14. The image forming apparatus as claimed in claim 13, wherein said plurality of coil cores are arranged at two 15 different intervals in said longitudinal direction of said induction heating element.

15. The image forming apparatus as claimed in claim 12, wherein said predetermined angle and said interval are arranged 20 such that heat distribution of said heat roller is approximately uniform in a longitudinal direction of said heat roller.

16. The image forming apparatus as claimed in claim 12, wherein said plurality of coil cores are arranged such that a

total cross section of said plurality of coil cores at a desired imaginary plane, which is orthogonal to said longitudinal direction of said induction heating element, is approximately uniform.

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17. The image forming apparatus as claimed in claim 14, wherein said plurality of coil cores are arranged such that said intervals become smaller as each of said coil cores is placed farther from a center of said induction heating element in said 10 longitudinal direction of said induction heating element.

18. The image forming apparatus as claimed in claim 13, wherein an interval at an end portion of the heat induction heating element is smaller than that of a center portion.

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19. The image forming apparatus as claimed in claim 13, wherein an angle defined by a coil core at end portion of the induction heating element with the longitudinal direction of the induction heating element is smaller than that of a center 20 portion.

20. The image forming apparatus as claimed in claim 12, further comprising a central core provided along with a longitudinal direction of said induction heating element.

21. The image forming apparatus as claimed in claim 12,
wherein said coil cores are C-shaped coil cores.

5 22. The image forming apparatus as claimed in claim 13,
wherein length of the induction heating element is larger than
length of the heat roller and the heat roller is located within
the length of the induction heating element.

10 23. A fixing device in which a plurality of C shaped
cores provided so as to cover a coil are respectively slantwise
arranged at an angle relative to the axial direction of a heat
roller.

15 24. A fixing device for holding and conveying a
recording medium by a fixing nip part, melting and pressing
non-fixed toner on the recording medium to fix the non-fixed
toner to the recording medium, said fixing device comprising:

20 a heat generating member having a rotating body made of
a magnetic metal member; and

an inductive heating unit having a magnetizing coil which
is opposed to the outer peripheral surface of the heat
generating member and has a bundle of wires with surfaces
insulated drawn in the direction of a rotation axis of the heat

generating member and wound along the direction of the circumference of the heat generating member and generates the heat of the heat generating member by an electromagnetic induction,

5 wherein assuming that the entire length of the magnetizing coil as length in the direction of the rotation axis of the heat generating member is L1 and the entire length of the heat generating member as length in the direction of the rotation axis thereof is L2, L1 is larger than L2 and the heat
10 generating member is arranged so that its entire length is located within the entire length of the magnetizing coil.

25. A fixing device according to claim 24, wherein a fixing roller to which the heat generating member or the heat
15 of the heat generating member is transmitted forms the fixing nip part.